

IN THE CLAIMS:

- 1 1. (Original) A layer 2 switch, comprising:
 - 2 a plurality of ports, at least one port of said plurality of ports capable of being set
 - 3 to a status of uplinkguard enabled (UG status);
 - 4 first circuits for running the spanning tree protocol (STP) in said layer 2 switch,
 - 5 said STP capable of selecting said at least one port as either a designated port or as a root
 - 6 port;
 - 7 second circuits for running uplinkguard enabled process, and said uplinkguard
 - 8 enabled process determining whether or not a port set to UG status has been selected by
 - 9 STP as a designated port; and,
 - 10 blocking circuits to set said at least one port into blocked state, said blocking cir-
 - 11 cuits setting said at least one port into blocked state in response to said at least one port
 - 12 being both in uplinkguard enabled status and selected by STP as a designated port.

- 1 2. (Original) A layer 2 switch, comprising:
 - 2 a plurality of ports, at least one port of said plurality of ports capable of being set
 - 3 to a status of Uplinkguard enabled (UG status);
 - 4 first circuits for maintaining said at least one port in blocked status, and for tran-
 - 5 sitioning said port into forwarding status;
 - 6 second circuits for running Uplinkguard enabled process, and said Uplinkguard
 - 7 enabled process determining whether or not a port set to UG status has been transitioned
 - 8 to forwarding status; and,
 - 9 blocking circuits to set said at least one port into blocked state, said blocking cir-
 - 10 cuits setting said at least one port into blocked state in response to said at least one port
 - 11 being both in UG enabled status and transitioned into forwarding status, and said at least
 - 12 one port not being a root port when in forwarding status.

1 3. (Original) A method of managing a switch for use in a computer network, comprising:
2 providing a plurality of ports, at least one port of said plurality of ports capable of
3 being set to a status of uplinkguard enabled status (UG status);
4 setting said at least one port to UG status;
5 running a spanning tree protocol (STP) in said switch, said STP capable of se-
6 lecting said at least one port as either a designated port or as a root port;
7 running uplinkguard enabled process, and said uplinkguard process determining
8 whether or not a port set to UG status has been selected by STP as a designated port; and,
9 setting said at least one port into blocked status, in response to said at least one
10 port being both in uplinkguard enabled status and selected by STP as a designated port.

1 4. (Original) A method of managing a switch for use in a computer network, compris-
2 ing:
3 providing a plurality of ports, at least one port of said plurality of ports capable of
4 being set to a status of uplinkguard enabled (UG status);
5 setting said at least one port to UG status, said at least one port being in blocking status;
6 transitioning said at least one port from blocking status to forwarding status;
7 determining whether or not said at least one port set to UG status has been transi-
8 tioned to forwarding status, and if said at least one port is not a root port; and
9 setting said at least one port into blocked state in response to said at least one port
10 being both in UG status and transitioned into forwarding status, and said at least one port
11 not being a root port.

1 5. (Original) A data structure stored in a memory of a computer network switch, said
2 data structure having entries, said entries having a "state" field and a "role" field, said
3 state field having the value of "blocked" or the value of "forwarding", comprising:
4 a first entry having the role field set to "root port" and the state field set to for-
5 warding;
6 a second entry having the role field set to "designated port" and the state field set
7 to forwarding;
8 a third entry having the role field set to "blocked port" and the state field set to
9 blocked; and,
10 a fourth entry having the role field set to "uplinkguard enabled" and the state field
11 set to blocked.

1 6. (Currently Amended) A computer readable memory device, comprising: said com-
2 puter readable memory device containing instructions for practice of the method of
3 [claim 2 or claim 3]
4 managing a switch for use in a computer network, the method having,
5 providing a plurality of ports, at least one port of said plurality of ports capable of
6 being set to a status of uplinkguard enabled status (UG status);
7 setting said at least one port to UG status;
8 running a spanning tree protocol (STP) in said switch, said STP capable of se-
9 lecting said at least one port as either a designated port or as a root port;
10 running uplinkguard enabled process, and said uplinkguard process determining
11 whether or not a port set to UG status has been selected by STP as a designated port; and,
12 setting said at least one port into blocked status, in response to said at least one
13 port being both in uplinkguard enabled status and selected by STP as a designated port.

1 7. (Currently Amended) Electromagnetic signals propagated over a computer network,
2 comprising: said electromagnetic signals having instructions for practice of the method of
3 [claim 2 or claim 3]

4
5 managing a switch for use in a computer network, the method having,
6 providing a plurality of ports, at least one port of said plurality of ports capable of
7 being set to a status of uplinkguard enabled status (UG status);
8 setting said at least one port to UG status;
9 running a spanning tree protocol (STP) in said switch, said STP capable of se-
10 lecting said at least one port as either a designated port or as a root port;
11 running uplinkguard enabled process, and said uplinkguard process determining
12 whether or not a port set to UG status has been selected by STP as a designated port; and,
13 setting said at least one port into blocked status, in response to said at least one
14 port being both in uplinkguard enabled status and selected by STP as a designated port.

1 8. (Previously Presented) The layer 2 switch of claim 1 further comprising:
2 said blocking circuits not setting said at least one port into a blocked status if said
3 at least one port is to be selected by STP as a root port.

1 9. (Previously Presented) The layer 2 switch of claim 1 further comprising:
2 said first circuits removing said at least one port from a list of ports examined by
3 STP if said port is in the blocked state and then rerunning STP.

1 10. (Previously Presented) The method of claim 3 further comprising:
2 not setting said at least one port into a blocked status if said at least one port is to
3 be selected by STP as a root port.

1 11. (Previously Presented) The method of claim 3 further comprising:
2 removing said at least one port from a list of ports examined by STP if said port is
3 in the blocked state and then rerunning STP.

Please add new claims 12, *et seq.*, as follows:

12. (New) A network switch, comprising:

a plurality of ports, at least one port of said plurality of ports having a status, said status being set to a status of capable of transmitting to other switches higher in a spanning tree protocol (hereinafter STP), OR being set to a status of NOT being able to transmit to other switches higher in the STP (hereinafter referred to as uplinkguard enabled status, or UG status);

first circuits for running the spanning tree protocol (STP) in said network switch, said STP capable of selecting said at least one port as either a designated port or as a root port;

second circuits for running an uplinkguard enabled process, and said uplinkguard enabled process determining whether or not a port set to UG status has been selected by STP as a designated port; and,

blocking circuits to set said at least one port into blocked state, said blocking circuits setting said at least one port into blocked state in response to said at least one port being both in UG status and selected by STP as a designated port.

13. (New) A method of operating a network switch, comprising:

first circuits for maintaining said at least one port in blocked status, and for transitioning said port into forwarding status;

second circuits for running Uplinkguard enabled process, and said Uplinkguard enabled process determining whether or not a port set to UG status has been transitioned to forwarding status; and,

blocking circuits to set said at least one port into blocked state, said blocking circuits setting said at least one port into blocked state in response to said at least one port being both in UG enabled status and transitioned into forwarding status, and said at least one port not being a root port when in forwarding status.

14. (New) The switch as in claim 12, further comprising:

a memory;

a data structure stored in the memory, said data structure having entries, said entries having a "state" field and a "role" field, said state field having the value of "blocked" or the value of "forwarding";

a first entry having the role field set to "root port" and the state field set to forwarding;

a second entry having the role field set to "designated port" and the state field set to forwarding;

a third entry having the role field set to "blocked port" and the state field set to blocked; and,

a fourth entry having the role field set to “uplinkguard enabled” and the state field set to blocked.

15. (New) The switch as in claim 12, further comprising:

said blocking circuits not setting said at least one port into a blocked status if said at least one port is selected by STP as a root port.

16. (New) The switch as in claim 12, further comprising:

said first circuits removing said at least one port from a list of ports examined by STP if said port is in the blocked state and when running STP.

17. (New) A method for operating a network switch, comprising:

setting a status at for at least one port of a plurality of ports, said status being set to either a status of capable of transmitting to other switches higher in a spanning tree protocol (spanning tree protocol is hereinafter STP), OR being set to a status of NOT being able to transmit to other switches higher in the STP (hereinafter referred to as uplink-guard enabled status, or UG status);

setting said at least one port to UG status;

running the spanning tree protocol (STP) in said network switch, said STP capable of selecting said at least one port as either a designated port or as a root port;

running an uplinkguard enabled process, and said uplinkguard enabled process determining whether or not a port set to UG status has been selected by STP as a designated port; and,

setting said at least one port into blocked state in response to said at least one port being both in UG status and selected by STP as a designated port.

18. (New) The method as in claim 17, further comprising:

running Uplinkguard enabled process, and said Uplinkguard enabled process determining whether or not a port set to UG status has been transitioned to forwarding status; and,

setting said at least one port into blocked state in response to said at least one port being both in UG enabled status and transitioned into forwarding status, and said at least one port not being a root port when in forwarding status.

19. (New) The method as in claim 17, further comprising:

storing a data structure stored in memory, said data structure having entries, said entries having a "state" field and a "role" field, said state field having the value of "blocked" or the value of "forwarding";

providing a first entry having the role field set to "root port" and the state field set to forwarding;

providing a second entry having the role field set to "designated port" and the state field set to forwarding;

providing a third entry having the role field set to "blocked port" and the state field set to blocked; and,

providing a fourth entry having the role field set to "uplinkguard enabled" and the state field set to blocked.

20. (New) The method as in claim 17, further comprising:

not setting said at least one port into a blocked status if said at least one port is selected by STP as a root port.

21. (New) The method as in claim 17, further comprising:

removing said at least one port from a list of ports examined by STP if said port is in the blocked state when running STP.

22. (New) A network switch, comprising:

means for setting a status at for at least one port of a plurality of ports, said status being set to either a status of capable of transmitting to other switches higher in a span-

ning tree protocol (spanning tree protocol is hereinafter STP), OR being set to a status of NOT being able to transmit to other switches higher in the STP (hereinafter referred to as uplinkguard enabled status, or UG status);

means for setting said at least one port to UG status;

means for running the spanning tree protocol (STP) in said network switch, said STP capable of selecting said at least one port as either a designated port or as a root port;

means for running an uplinkguard enabled process, and said uplinkguard enabled process determining whether or not a port set to UG status has been selected by STP as a designated port; and,

means for setting said at least one port into blocked state in response to said at least one port being both in UG status and selected by STP as a designated port.

23. (New) The network switch as in claim 22, further comprising:

means for running Uplinkguard enabled process, and said Uplinkguard enabled process determining whether or not a port set to UG status has been transitioned to forwarding status; and,

means for setting said at least one port into blocked state in response to said at least one port being both in UG enabled status and transitioned into forwarding status, and said at least one port not being a root port when in forwarding status.

24. (New) The network switch as in claim 22, further comprising:

means for storing a data structure stored in memory, said data structure having entries, said entries having a "state" field and a "role" field, said state field having the value of "blocked" or the value of "forwarding";

means for providing a first entry having the role field set to "root port" and the state field set to forwarding;

means for providing a second entry having the role field set to "designated port" and the state field set to forwarding;

means for providing a third entry having the role field set to "blocked port" and the state field set to blocked; and,

means for providing a fourth entry having the role field set to "uplinkguard enabled" and the state field set to blocked.

25. (New) The network switch as in claim 22, further comprising:

means for not setting said at least one port into a blocked status if said at least one port is selected by STP as a root port.

26. (New) The network switch as in claim 22, further comprising:

means for removing said at least one port from a list of ports examined by STP if said port is in the blocked state when running STP.

27. (New) A computer readable media, comprising:

said computer readable media having instructions written thereon for execution on a processor for the practice of the method having,

setting a status at for at least one port of a plurality of ports, said status being set to either a status of capable of transmitting to other switches higher in a spanning tree protocol (spanning tree protocol is hereinafter STP), OR being set to a status of NOT being able to transmit to other switches higher in the STP (hereinafter referred to as uplink-guard enabled status, or UG status);

setting said at least one port to UG status;

running the spanning tree protocol (STP) in said network switch, said STP capable of selecting said at least one port as either a designated port or as a root port;

running an uplinkguard enabled process, and said uplinkguard enabled process determining whether or not a port set to UG status has been selected by STP as a designated port; and,

setting said at least one port into blocked state in response to said at least one port being both in UG status and selected by STP as a designated port.

28. (New) Electromagnetic signals propagating on a computer network, comprising:

said electromagnetic signals carrying instructions for execution on a processor for the practice of the method having,

setting a status at for at least one port of a plurality of ports, said status being set to either a status of capable of transmitting to other switches higher in a spanning tree protocol (spanning tree protocol is hereinafter STP), OR being set to a status of NOT being able to transmit to other switches higher in the STP (hereinafter referred to as uplink-guard enabled status, or UG status);

setting said at least one port to UG status;

running the spanning tree protocol (STP) in said network switch, said STP capable of selecting said at least one port as either a designated port or as a root port;

running an uplinkguard enabled process, and said uplinkguard enabled process determining whether or not a port set to UG status has been selected by STP as a designated port; and,

setting said at least one port into blocked state in response to said at least one port being both in UG status and selected by STP as a designated port.